Response under 37 C.F.R. 1.116
- Expedited Examining Procedure -
Examining Group 2879

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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:

Ronald S. Cok

ORGANIC POLARIZED LIGHT EMITTING DIODE DISPLAY WITH POLARIZER

Serial No. 10/694,550

Filed 27 October 2003

Group Art Unit: 2879

Examiner: Dalei Dong

I hereby certify that this correspondence is being deposited today with the United States Postal Service as first class mail in an envelope addressed to Commissioner For Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

Valerie Richardson

Valerie Richardson

January 19, 2007

Date

Commissioner for Patents
P.O. Box 1450
Alexandria, VA. 22313-1450

Sir:

Pre-Appeal Brief Request for Review

Applicants request review of the final rejection in the above-identified application. No amendments are being filed with this request. This request is being filed with a Notice of Appeal. The review is requested based on the following Arguments.

Arguments

Claim Rejections - 35 USC § 103

Claims 1-4, 7 and 9-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,967,437 to Samuel in view of U.S. Patent No. 6,211,613 to May. This rejection represents clear error, however, as it is based on erroneous interpretations of the Samuel and May disclosures. In particular, contrary to the Examiner's statements, while column 2, lines 55-62 of Samuel notes that surface plasmon polarization modes associated with metal contacts is one of the available modes of emitted energy in an LED structure, and Samuel does disclose a periodic grating structure, Samuel does not teach that the periodic grating structures suggested therein are configured to induce surface

plasmon cross coupling in the metallic electrode layer to emit polarized light. Samuel rather only teaches at column 2, lines 55-62 that surface plasmon polarization is one of the available modes of emitted energy from an LED structure, along with radiative modes and trapped guided modes. In actuality, the emitted energy for LED structures may be in the form of any combination of such various possible individual modes. Thus, there is no factual basis for the Examiner's interprets that when an LED structure is capable of operating in a mode of surface plasmon polarization, every component of the LED structure is configured to induce surface plasmon in order to operate in that specific mode.

Samuel does not teach use of any specific configuration to induce surface plasmon cross-coupling to directly produce polarized emitted light, but rather goes on to teach microstructure designed to Bragg scatter already emitted trap guided mode emissions. Col. 3, line 59 – col. 5, line 14, e.g., teaches that while emission radiated from planar LED devices is in general un-polarized, configuring a microstructure grating to Bragg scatter guided modes produced by emission from the emitters in the structure may be useful for controlling the polarization state of the emitted radiation. Thus, to the extent polarized light emission is noted in Samuel, it is attributed to microstructure features adapted to result in Bragg scattering (col. 4, lines 6-15), not to the use of a periodic grating structure configured to induce surface plasmon cross coupling in the metallic electrode layer as alleged by the Examiner. Thus, the rejection is based on a clearly erroneous interpretation of the teachings of Samuel relative to the present invention.

Additionally contrary to the Examiner's statements, while the polarizer of May is employed for improving the contrast of an EL display by absorbing light from the environment, there is no teaching in May of employing an EL device which is itself configured to emit light that is polarized prior to passing through the polarizer. While the light emitted by the EL device may become polarized after it is passed though a polarizer, there is no teaching in May to configure the EL device to actually initially emit polarized light, and to orient the circular polarizer such that emitted polarized light then passes through the polarizer without being substantially absorbed. Rather, as noted in Samuel, absent countervailing measures, emission radiated from planar LED devices is in general un-polarized. Accordingly, there is clearly no support for the Examiner's

statement that May discloses an EL device comprising a circular polarizer oriented such that "the emitted polarized light" passes through the polarizer without being substantially absorbed. Again, the light emitted by the EL device in May is not taught as being polarized, and will only become polarized after it has passed through a polarizer. Thus, the Examiner's interpretation that "emitted polarized light" is passed through the circular polarizer of May is in clear error. Thus, the rejection is also based on a clearly erroneous interpretation of the teachings of May relative to the present invention.

Further, the proposed motivation of providing a polarizer in order to increase the contrast of the image by absorbing ambient light as taught by May would in any event not teach or suggest to orientate such a polarizer in any specific direction relative to the light emitted from the EL device itself, as May does not teach or suggest that the ability to increase the contrast by absorbing ambient light is dependent upon the relative orientation of the polarizer and the device. It is this unique combination as claimed which provides the combined advantages of the present invention (i.e., substantial absorption of ambient light, without substantial absorption of emitted polarized light), and which distinguished the invention from the prior art. Accordingly, the present invention is clearly not taught or suggested by the proposed combination, and a prima facie case of obviousness has not been established. Reconsideration of this rejection is accordingly respectfully requested.

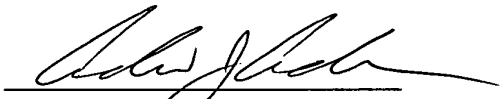
Claims 5, 6 and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over U. S. Patent No. 6,967,437 to Samuel in view of U.S. Patent No. 6,211,613 to May in further view of U.S. Patent No. 6,815,886 to Kawase. This rejection represents further clear error, as Kawase fails to overcome the basic deficiency of the rejection based on Samuel-May as discussed above. While Kawase describes light emitting devices comprising periodic grating structures in the form of a corrugated surface, as discussed at col. 5, lines 7+ thereof the basic function of such corrugated surface is to couple light in a waveguide propagation mode with light in a radiative mode so as to cause much of the generated light conventionally trapped in waveguide modes to be emitted from the device in the radiative mode. As further discussed at col. 5, lines 25+, refractive indices and thickness of active layers are selected to achieve the desired optical coupling. This optical waveguide coupling technique again is not a teaching to design such

devices with periodic grating structure in order to induce surface plasmon cross coupling in metallic electrode layers. Accordingly, a prima facie case of obviousness has not been established.

Claims 14-17 are rejected under 35 U.S.C.103 (a) as being unpatentable over U.S. Patent No. 6,967,437 to Samuel in view of U.S. Patent No. 6,211,613 to May and further in view of U.S. Patent No. 5,855,994 to Biebuyck. This rejection represents further clear error, as while Biebuyck may disclose an EL device comprising a diffuser, Biebuyck et al fails to overcome the basic deficiency of the rejection based on Samuel-May as discussed above, and accordingly a prima facie case of obviousness has clearly not been established.

The final rejection thus clearly is in error for at least the reasons asserted above, and a prompt and favorable action in response to this request is earnestly solicited.

Respectfully submitted,



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If the Examiner is unable to reach the Applicant(s) Attorney at the telephone number provided, the Examiner is requested to communicate with Eastman Kodak Company Patent Operations at (585) 477-4656.